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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| EXAMINER |
|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 1634 | |

DATE MAILED: 08/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/292,056 | GREENBERGER ET AL. | |
| | Examin r | Art Unit | |
| | Jehanne E Souaya | 1634 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondenc address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on *16 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,47-64,70,74-81,86-100,103,104 and 114-124* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,47-64,70,74-81,86-100,103,104 and 114-124* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 16, 2003 has been entered.

2. Currently, claims 1, 47-64, 70, 74-81, 86-100, 103, 104, and 114-124 are pending in the instant application. All the amendments and arguments have been thoroughly reviewed but are deemed insufficient to place this application in condition for allowance. Any rejections not reiterated are hereby withdrawn. The following rejections are either newly applied or are reiterated. They constitute the complete set being presently applied to the instant Application. Response to Applicant's arguments follow. This action is NON-FINAL.

### *New Grounds of Rejection*

### *Claim Rejections - 35 USC § 112*

3. Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite in the recitation of "of the plurality of cells" in line 11. This limitation also appears in line 10 of the claim, and it is unclear how the second iteration further defines the invention.

Claims 1, 51, 57, 70, 74, 75 and 80 are indefinite in the recitation of "a plurality of cells having a dynamically controlled closed environment" as it appears that the claim indicates that the cells are a closed environment. The claims should be amended to indicate that the incubating mechanism is a closed system and remains closed while it is dynamically controlled.

Claims 48 and 49 are indefinite in the recitation of "compares images to each other serially" as it is unclear if this limitation further limits the apparatus, structurally. In other words, a structure may have the ability to compare 2 images, or more than 2 images, without changing the structure of the apparatus. It is unclear if the recitation is intended to further limit the structure of the apparatus or how it further limits the structure of the apparatus.

Claim 96 lacks antecedent basis for the recitation of "each well" as it is unclear what's wells are being referred to; claim 1 does not recite any mechanism with a well.

Claims 49, 50, 94, 96 and 103 lack sufficient antecedent basis for the recitation of "the imaging mechanism" as this term does not appear in claim 1.

Claim 51 is indefinite as it is unclear why the claim was amended to reiterate that the determining mechanism is in communication with the incubating mechanism as this limitation is already set forth.

Claim 99 is indefinite in the recitation of "retaining sufficient to flow" as it is unclear what is encompassed by this limitation.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 47, 48, 51-64, 70, 74-79, 94, 96, 103, 104, and 124 are rejected under 35 U.S.C. 102(b) as being anticipated by Findley et al (hereinafter referred to as Findley, US Patent 4,892,830, Jan. 1990).

Findley teaches a closed, environmentally controlled incubator for in vitro fertilization (see abstract, and cols 1 and 2). Findley teaches that the incubator (mechanism for incubating a plurality of cells, in this case, individual fertilized eggs) is used for maintaining and examining cells, including mammalian eggs (single cell), zygotes, and pre embryos in culture media which includes an environmentally closed chamber (see col. 2, lines 57-65). Findley teaches that the chamber also has a control means for maintaining oxygen concentration within the chamber (mechanism for individually controlling automatically the cell), and a microscope stand and an aperture in the enclosure for permitting a microscope (mechanism for individually tracking and identifying, mechanism for automatically determining, positioned on the stand to extend through said aperture and cuff means for sealing between the microscope and said aperture (see col. 3, lines 1-5). Findley further teaches that the incubator may also include an airlock, which may have a sliding tray therein for permitting objects, such as culture dishes to be placed within or removed from the incubator during use without contaminating the atmosphere within the incubator with air (col. 3, lines 6-12, and fig 2). Findley also teaches that the airlock may include means for coupling a source of gas for controlling the composition (mechanism for individually controlling automatically the cell, mechanism for introducing media) within the airlock (col. 3, lines 12-15). It is noted that the term "automatically" has not been interpreted to be limited to a system that is automated. The specification does not define this term to be limited

to such. It is further noted that the apparatus of Findley inherently provides an apparatus that can keep track of an individual cell of a plurality of cells over time and can determine when a cell has doubled. With regard to claim 74, the recitation of stem cell has been given no weight as this recitation does not further structurally limit the claimed apparatus over the teachings of Findley et al.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 49, 50, and 114-123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Findley in view of Weinreb.

Findley teaches a closed, environmentally controlled incubator for in vitro fertilization (see abstract, and cols 1 and 2). Findley teaches that the incubator (mechanism for incubating a

plurality of cells, in this case, individual fertilized eggs) is used for maintaining and examining cells, including mammalian eggs (single cell), zygotes, and pre embryos in culture media which includes an environmentally closed chamber (see col. 2, lines 57-65). Findley teaches that the chamber also has a control means for maintaining oxygen concentration within the chamber (mechanism for individually controlling automatically the cell), and a microscope stand and an aperture in the enclosure for permitting a microscope (mechanism for individually tracking and identifying, mechanism for automatically determining, positioned on the stand to extend through said aperture and cuff means for sealing between the microscope and said aperture (see col. 3, lines 1-5). Findley further teaches that the incubator may also include an airlock, which may have a sliding tray therein for permitting objects, such as culture dishes to be placed within or removed from the incubator during use without contaminating the atmosphere within the incubator with air (col. 3, lines 6-12, and fig 2). Findley also teaches that the airlock may include means for coupling a source of gas for controlling the composition (mechanism for individually controlling automatically the cell, mechanism for introducing media) within the airlock (col. 3, lines 12-15). It is noted that the term "automatically" has not been interpreted to be limited to a system that is automated. The specification does not define this term to be limited to such. It is further noted that the apparatus of Findley inherently provides an apparatus that can keep track of an individual cell of a plurality of cells over time and can determine when a cell has doubled. With regard to claim 74, the recitation of stem cell has been given no weight as this recitation does not further structurally limit the claimed apparatus over the teachings of Findley.

Findley does not teach a system including a liquid handling system however, one of ordinary skill in the art would have been motivated to modify the apparatus of Findley et al, for the purpose of monitoring any type of cell individually for the obvious improvement of making the apparatus of Findley et al more versatile to use. Findley teaches an apparatus whereby cells can be incubated and grown and wherein media can be added or growth or maintenance conditions can be changed while the cells remain in a closed environment. Findley further teaches that the cells can be observed individually (a microscope can detect a single cell) while they are in the environmentally closed environment. Weinreb teaches an apertured cell carrier where each individual cell has a specific defined address within the carrier so that each individual cell can be monitored (see abstract). Weinreb teaches that one can subject all of the cells to one or more tests, but can examine the properties of each cell by directing the particular diagnosing/ measuring instruments to the cell's unique address (col.4, lines 34-39). Weinreb further teaches that the apparatus includes a device for aligning the carrier with a device whereby the individual addresses of the holes in the carrier are identifiable by a set of x and y coordinates as when the carrier is viewed through a microscope (col.11, lines 50-55). Weinreb also teaches that an orifice (150) is connected by an outflow tube (160) to a pump (162) where the pump serves to produce a pressure differential across the carrier which pulls the cells into the apertures of the carrier. Weinreb teaches that a basin (156) is configured so as to allow a microscope objective to be brought close enough to the carrier to bring the apertures into focus. Weinreb teaches that solutions are provided to the basin by one or more inflow tubes with are connected to syringe needles. The inflow tubes are used to introduce bathing and reagent solutions to the cells. Weinreb also teaches a certain embodiment wherein in response to command signals from

a controller, such as a computer, separation and optical scanning are performed automatically, without need for a trained operator (see col. 26, lines 30-36). Weinreb further teaches that a cell by cell analysis provides more information for the understanding of biological implications and makes it possible to realize such analysis very quickly and accurately (see col.6, lines 58-63).

Therefore it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to improve the apparatus of Findley for the purpose of monitoring growth and state of any type of cell individually as Weinreb teaches that cell by cell analysis provides more information for the understanding of biological implications and makes it possible to realize such analysis very quickly and accurately (see col.6, lines 58-63). It would have been further prima facie obvious to the ordinary artisan to further improve the apparatus of Findley to provide a device whereby liquid media could be added as required for growth for different types of cells. The ordinary artisan would have been motivated to improve the apparatus of Findley by adding a liquid handling system to make the apparatus of Findley more versatile to perform. While Weinreb does not specifically teach a closed system, the system of Weinreb could be easily closed by providing an enclosure about the system as taught by Findley et al.

9. Claims 80, 81, 86-93, 95, 97, and 99-100 rejected under 35 U.S.C. 103(a) as being unpatentable over Findley in view of Weinreb, and further in view of Early et al (US Patent 5,45,008).

Findley teaches a closed, environmentally controlled incubator for in vitro fertilization (see abstract, and cols 1 and 2). Findley teaches that the incubator (mechanism for incubating a plurality of cells, in this case, individual fertilized eggs) is used for maintaining and examining cells, including mammalian eggs (single cell), zygotes, and pre embryos in culture media which includes an environmentally closed chamber (see col. 2, lines 57-65). Findley teaches that the chamber also has a control means for maintaining oxygen concentration within the chamber (mechanism for individually controlling automatically the cell), and a microscope stand and an aperture in the enclosure for permitting a microscope (mechanism for individually tracking and identifying, mechanism for automatically determining, positioned on the stand to extend through said aperture and cuff means for sealing between the microscope and said aperture (see col. 3, lines 1-5). Findley further teaches that the incubator may also include an airlock which may have a sliding tray therein for permitting objects, such as culture dishes to be placed within or removed from the incubator during use without contaminating the atmosphere within the incubator with air (col. 3, lines 6-12, and fig 2). Findley also teaches that the airlock may include means for coupling a source of gas for controlling the composition (mechanism for individually controlling automatically the cell, mechanism for introducing media) within the airlock (col. 3, lines 12-15). It is noted that the term "automatically" has not been interpreted to be limited to a system that is automated. The specification does not define this term to be limited to such. It is further noted that the apparatus of Findley inherently provides an apparatus that can keep track of an individual cell of a plurality of cells over time and can determine when a cell has doubled. With regard to claim 74, the recitation of stem cell has been given no weight as

this recitation does not further structurally limit the claimed apparatus over the teachings of Findley.

Findley does not teach a system including a liquid handling system however, one of ordinary skill in the art would have been motivated to modify the apparatus of Findley et al, for the purpose of monitoring any type of cell individually for the obvious improvement of making the apparatus of Findley et al more versatile to use. Findley teaches an apparatus whereby cells can be incubated and grown and wherein media can be added or growth or maintenance conditions can be changed while the cells remain in a closed environment. Findley further teaches that the cells can be observed individually (a microscope can detect a single cell) while they are in the environmentally closed environment. Weinreb teaches an apertured cell carrier where each individual cell has a specific defined address within the carrier so that each individual cell can be monitored (see abstract). Weinreb teaches that one can subject all of the cells to one or more tests, but can examine the properties of each cell by directing the particular diagnosing/ measuring instruments to the cell's unique address (col.4, lines 34-39). Weinreb further teaches that the apparatus includes a device for aligning the carrier with a device whereby the individual addresses of the holes in the carrier are identifiable by a set of x and y coordinates as when the carrier is viewed through a microscope (col.11, lines 50-55). Weinreb also teaches that an orifice (150) is connected by an outflow tube (160) to a pump (162) where the pump serves to produce a pressure differential across the carrier which pulls the cells into the apertures of the carrier. Weinreb teaches that a basin (156) is configured so as to allow a microscope objective to be brought close enough to the carrier to bring the apertures into focus. Weinreb teaches that solutions are provided to the basin by one or more inflow tubes with are connected

to syringe needles. The inflow tubes are used to introduce bathing and reagent solutions to the cells. Weinreb also teaches a certain embodiment wherein in response to command signals from a controller, such as a computer, separation and optical scanning are performed automatically, without need for a trained operator (see col. 26, lines 30-36). Weinreb further teaches that a cell by cell analysis provides more information for the understanding of biological implications and makes it possible to realize such analysis very quickly and accurately (see col.6, lines 58-63).

Therefore it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to improve the apparatus of Findley for the purpose of monitoring growth and state of any type of cell individually as Weinreb teaches that cell by cell analysis provides more information for the understanding of biological implications and makes it possible to realize such analysis very quickly and accurately (see col.6, lines 58-63). It would have been further prima facie obvious to the ordinary artisan to further improve the apparatus of Findley to provide a device whereby liquid media could be added as required for growth for different types of cells. The ordinary artisan would have been motivated to improve the apparatus of Findley by adding a liquid handling system to make the apparatus of Findley more versatile to perform. While Weinreb does not specifically teach a closed system, the system of Weinreb could be easily closed by providing an enclosure about the system as taught by Findley et al.

Findley in view of Weinreb do not teach a robotic mechanism for automatically dispensing and aspirating different material. Earley teaches a robotic system for robotically performing Sanger reactions (see abstract). Earley teaches that the robot can manipulate microtiter plates, for example, and can perform pipetting in the 5-200 microliter range (see abstract). Earley teaches that the robot arm is mounted such that is has motion in vertical and

horizontal planes (see claim 1). Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to improve the apparatus of Findley in view of Weinreb, with a robot arm for automatically dispensing media as Earley teaches that such type of robotic mechanism is capable of providing liquid media to many different reaction containers with speed, quality and reproducibility (see col. 15, lines 23-38). The ordinary artisan would have recognized that the apparatus of Findley in view of Weinreb could be improved by including a robotic arm for handling different reagents and different cultures with "speed, quality, and reproducibility" as taught by Earley.

***Maintained Rejections***

10. Claims 114-123 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruhashi et al. (U.S. Patent 5,403,735 (Apr. 4, 1995)). Maruhashi teaches a method and apparatus for culturing and detecting cells (abstract). Maruhashi teaches that prior art methods of testing a cell culture for cell viability, growth rate or other diagnostic means have the disadvantages of requiring the opening of a closed and sterile culture system to test, liquid used for testing cannot be returned to the culture because of stains used to test viability, and that such staining means are not very reliable and do not provide any information as to the ratio of viable cells (col. 2 line 48-col. 3 line 12). Maruhashi teaches means for culturing and observing cellular cultures where the means for culturing and means for detecting are in fluid communication so that the culture system does not need to be opened and where microscopy is used to detect cell division state, thereby obviating the need for staining or culture sampling (col. 8 lines 36-67 & Figs. 1, 4 & 8). Maruhashi teaches that such a system can include a temperature controller, pumps and injectors

to maintain the pH, temperature, osmotic pressure, dissolved oxygen (col. 7 line 64-col. 8 line 5, col. 16 lines 18-45& Figure. 21 & 23). Maruhashi teaches that the microscope is in communication with a television camera to capture images and an image processing and calculating device (i.e. computer; see col. 8, line 67-col. 9 line 11). Maruhashi teaches that two microscopes, camera and data processor setups can be used simultaneously (Figure. 8). Maruhashi teaches a cell culture system (Figure 21 and col. 16, lines 18-52) where an image pick up device (e.g. a microscope (509)) is linked to a controller (510) and is directly attached to the culture vessel (506). Maruhashi teaches that the image pick up device (509) operates as describe for other embodiments of the invention and describes (509) as monitoring the cells and microscopic small particles (col. 16, lines 35-40). Therefore, the teachings of Maruhashi as to a method and apparatus for monitoring cell activity by using a culturing and testing system in fluid communication where the temperature and pH of the culture is regulated and the testing system comprises a microscope, television camera and data processor and where the cells are examined in the location in which they are grown, anticipates all of the limitations of the instantly claimed invention.

***Response to Arguments***

The response traverses the rejection. The response asserts that there is no teaching to mark or identify even one cell in Maruhashi to be able to monitor the state of the cell over time. This argument has been thoroughly reviewed but was found unpersuasive. Firstly, the claims do not recite that the 'state' of a cell is monitored over time. Further, the recitation of "over time" can be on the order of a few milliseconds. The amendment of the claim to recite an image recognition system for analyzing each cell of the cells over time that are disposed in the plurality

of cell housing containers, does not further structurally limit or define the image recognition system. Nowhere do the claims recite that the cells are housed individually. The claim reads on an apparatus that contains, for example, a culture of cells. Maruhashi teaches that the "culture liquid sampled from a cell culturing tank is fed to two image pick up devices". Maruhashi further teaches that the device identifies cells from the picture images from the image pick up device 26 (see col. 10, lines 20-40). Although Maruhashi does not teach that all cells are analyzed, the device of Maruhashi could be used for such. The claims as presently amended are drawn to method steps that do not structurally limit the apparatus other than an apparatus that has a biochamber, a liquid handling system, an image recognition system, and a stage for supporting the biochamber.

11. Claims 114-123 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuzaki et al.

Matsuzaki teaches a method and apparatus for culturing and detecting under conditions where the detecting step is performed under the physiological conditions of the culturing step, the detection portion of the apparatus is in fluid communication with the culturing portion (abstract, col. 1 lines 11-15, lines 60-65). Matsuzaki also teaches (col. 9 lines 17-24 and Figure 11) that the observing or detecting portion (4') of the apparatus may be an integral portion of the culturing vessel ((1); i.e. place where cells are grown). Matsuzaki teaches that this system has the advantage of not exposing the culture to external conditions during the detecting step, the culture used for detection can be returned to the culturing vessel, and that information obtained from the detecting step can then be used to effect changes in the composition of the culture

thereby enhancing culturing efficiency (abstract, col. 2 lines 31-36 and 43-45 & col. 3 lines 13-15). Matsuzaki teaches that the use of a microscope for the detection of the culture and a digital processor (i.e. computer) to processes the images (col. 5, line 63-65 & Figure. 14). Matsuzaki teaches that the temperature, pH and dissolved oxygen and carbon dioxide conditions of the culture are monitored and controlled (col. 8 line 65-col. 9 line 5, Figs 5 & 12). Therefore, Matsuzaki anticipates all of the limitations of the instant claims by teaching a method and apparatus for culturing and measuring cell conditions where the culturing and measuring components are in fluid communication and a microscope and data processor are used to detect the cells and where the state of the cells is detected in the vessel in which the cells are grown.

***Response to Arguments***

The response traverses the rejection. The response traverses that there is no teaching or suggestion in Matsuzaki how to separate a cell from other cells it with with. This argument has been thoroughly reviewed but was found persuasive, as no where in claims 114-123 is such a limitation claimed. The amendment of the claim to recite an image recognition system for analyzing each cell of the cells over time that are disposed in the plurality of cell housing containers, does not further structurally limit or define the image recognition system. No where do the claims recite that the cells are housed individually or separated from other cells. The claim reads on an apparatus that contains, for example, a culture of cells. Matsuzaki teaches an imaging device that recognizes all of the cells and calculates size, form and brightness (see col. 6, lines 29-41. The claims as presently amended are drawn to method steps that do not

structurally limit the apparatus other than an apparatus that has a biochamber, a liquid handling system, an image recognition system, and a stage for supporting the biochamber.

***Conclusion***

12. No claims are allowable over the cited prior art.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jehanne Souaya whose telephone number is (703) 308-6565. The examiner can normally be reached Monday-Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Jehanne Souaya
Jehanne Souaya
Primary Examiner
Art Unit 1634
Aug. 7, 2003